

### Subpart 76.10—Fire Main System, Details

#### § 76.10-1 Application.

(a) The provisions of this subpart, with the exception of § 76.10-90, shall apply to all fire main installations contracted for on or after May 26, 1965. Installations contracted for prior to May 26, 1965, shall meet the requirements of § 76.10-90.

(b) [Reserved]

#### § 76.10-3 Water availability.

(a) On all vessels on an international voyage, regardless of the date of construction, water pressure from the firemain protecting enclosed spaces shall be immediately available by maintenance of water pressure on the firemain at all times when passengers are aboard the vessel, or by remote control of fire pumps which control shall be easily operable and readily accessible.

(b) Where approved remote controls are not installed, an alarm shall be fitted which will sound in the engine room indicating a drop of water pressure on the system.

[CGFR 67-87, 32 FR 19181, Dec. 20, 1967]

#### § 76.10-5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with table 76.10-5(a).

TABLE 76.10-5(a)

| Gross tons  |          | Minimum number of pumps |       | Hose and hydrant size, inches | Nozzle orifice size, inches | Length of hose, feet |
|-------------|----------|-------------------------|-------|-------------------------------|-----------------------------|----------------------|
| Over        | Not over | International voyage    | Other |                               |                             |                      |
| .....       | 100      | 2                       | 1     | 1½                            | ½                           | 50                   |
| 100 .....   | 500      | 2                       | 1     | 1½                            | ⅝                           | 50                   |
| 500 .....   | 1,500    | 2                       | 2     | 1½                            | ⅝                           | 50                   |
| 1,500 ..... | 4,000    | 2                       | 2     | 1½                            | ⅝                           | 150                  |
| 4,000 ..... | .....    | 3                       | 3     | 1½                            | ⅝                           | 150                  |

<sup>1</sup> 75 feet of 1½-inch hose and ⅝-inch nozzles may be used where specified by § 76.10-10(b).

(b) Vessels on an international voyage shall have a minimum total fire pump capacity at least equal to two-thirds of the required total bilge pump capacity, but in no case less than that required by this section. Each of the

required fire pumps shall have a capacity not less than 80 percent of the total required capacity divided by the number of required pumps.

(c) Each pump shall be capable of delivering water simultaneously from the two highest outlets at a Pitot tube pressure of approximately 50 p. s. i. Where one or both of these outlets is a 1½-inch siamese fitting, both branches of the siamese fitting at each such outlet shall be utilized for the purpose of this requirements.

(d) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 p. s. i. in excess of the pressure necessary to maintain the requirements of paragraph (c) of this section or 125 p. s. i., whichever is greater. Relief valves may be omitted if the pumps, operating under shutoff conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gauge on the discharge side of the pumps.

(f) Fire pumps may be used for other purposes provided at least one of the required pumps is kept available for use on the fire system at all times. In no case shall a pump having connection to an oil line be used as a fire pump. Branch lines connected to the fire main for purposes other than fire and deck wash shall be arranged so that the requirements of paragraphs (b) and (c) of this section and any other services installed on the fire main can be met simultaneously.

(g) The total area of the pipes leading from a pump shall not be less than the discharge area of the pump.

(h) If a vessel uses main or auxiliary oil fired boilers or internal combustion propulsion machinery, and is required to have two fire pumps, the pumps must be in separate spaces and the arrangement of pumps, sea connections, and sources of power must be arranged to ensure that a fire in any one space will not put all of the fire pumps out of operation. However, in vessels of less than 300 feet in length, when it is shown to the satisfaction of the Commandant that it is unreasonable or impracticable to meet this requirement due to the size or arrangement of the

## § 76.10-10

## 46 CFR Ch. I (10-1-13 Edition)

vessel, or for other reasons, the installation of a total flooding carbon dioxide or clean agent extinguishing system may be accepted as an alternate method of extinguishing any fire that affects the powering and operation of at least one of the required fire pumps.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 95-028, 62 FR 51204, Sept. 30, 1997; USCG-2006-24797, 77 FR 33876, June 7, 2012]

### § 76.10-10 Fire station hydrants, hose and nozzles-T/ALL.

(a) The size of fire hydrants, hose, and nozzles and the length of hose required shall be as noted in table 76.10-5(a).

(b) In lieu of the 2½-inch hose and hydrants specified in table 76.10-5(a), on vessels over 1,500 gross tons, the hydrants in interior locations may have siamese connections for 1½-inch hose. In these cases the hose shall be 75 feet in length, and only one hose will be required at each fire station; however, if all such stations can be satisfactorily served with 50-foot lengths, 50-foot hose may be used.

(c) On vessels of 500 gross tons and over there must be at least one shore connection to the fire main available to each side of the vessel in an accessible location. Suitable cut-out valves and check valves must be provided. Suitable adaptors also must be provided for furnishing the vessel's shore connections with couplings mating those on the shore fire lines. Vessels of 500 gross tons and over on an international voyage, must be provided with at least one international shore connection complying with ASTM F 1121 (incorporated by reference, see § 76.01-2). Facilities must be available enabling an international shore connection to be used on either side of the vessel.

(d) Fire hydrants shall be of sufficient number and so located that any part of the vessel, other than main machinery spaces, accessible to the passengers or crew while the vessel is being navigated and all cargo holds may be reached with at least two streams of water from separate outlets, at least one of which shall be from a single length of hose. For the purpose of this requirement, all watertight

doors and all doors in main vertical zone bulkheads and stairway enclosures shall be closed, although hose ports may be installed in doors other than watertight doors and doors in main vertical zone bulkheads for the passage of the hose. In main machinery spaces, all portions at such spaces shall be capable of being reached by at least two streams of water, each of which shall be from a single length of hose from separate outlets; however, this requirement need not apply to shaft alleys containing no assigned space for the stowage of combustibles. Fire hydrants shall be numbered as required by § 78.47-20 of this subchapter.

(e) All parts of the fire main located on exposed decks shall either be protected against freezing or be fitted with cut-out valves and drain valves so that the entire exposed parts of such piping may be shut off and drained in freezing weather. Except when closed to prevent freezing, such valves shall be sealed open.

(f) The outlet at each fire hydrant shall be provided with a cock or valve fitted in such a position that the fire hose may be removed while the firemain is under pressure. In addition, the outlet shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead horizontally or downward to minimize the possibility of kinking.

(g) Each fire hydrant must have at least one length of fire hose, a spanner, and a hose rack or other device for stowing the hose.

(h) Fire hose shall be connected to the outlets at all times. However, on open decks where no protection is afforded to the hose in heavy weather, or where the hose may be liable to damage from the handling of cargo the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

(i) Fire hose shall not be used for any other purpose than fire extinguishing and fire drills.

(j) Each firehose on each hydrant must have a combination solid stream and water spray firehose nozzle that meets the requirements in subpart 162.027 of this chapter. Firehose nozzles previously approved under subpart 162.027 of this chapter may be retained